
ARNOLD & PORTER

Rachel L. Adams, Ph.D.
Rachel_Adams@aporter.com

202.942.5512
202.942.5999 Fax

555 Twelfth Street, NW
Washington, DC 20004-1206

September 29, 2003

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attn: Mail Stop Sequence

Re: U.S. Patent Application No. 08/657,749
Filed: May 30, 1996
Title: **Nucleic Acid Sequences Encoding a Plant Cytoplasmic
Protein Involved in Fatty Acyl-CoA Metabolism.**
Applicants: James G. METZ *et al.*
Atty. Docket No.: 16518.025

Sir:

In response to the telephone conference with the Examiner on September 17, 2003
informing Applicants that the Sequence Listing was noncompliant, Applicants submit herewith:

- (1) a corrected paper copy of the Sequence Listing (64 pages);
- (2) a copy of the Sequence Listing in Computer Readable Form (CRF) on a floppy diskette;
- (3) a Statement to Support Filing and Submission in Accordance with 37 C.F.R. §§ 1.821-1.825; and
- (4) a return postcard.

Applicants request that attached postcard be stamped with the filing date of these documents and returned to our courier.

ARNOLD & PORTER

Commissioner for Patents
Atty. Docket No. 16518.025
September 29, 2003
Page 2

It is the undersigned's understanding, based on a September 17, 2003 conference with the Examiner, that the sequence listing filed on August 11, 2003 was a bona fide attempt to comply with the requirements outlined in the Office Action mailed March 11, 2003. Therefore, since this response is being submitted within thirty (30) days of the Examiner's notification of noncompliance (communicated by facsimile on September 17, 2003), it is believed that no fees are due at this time. However, if any fees are required in the present application, then the Commissioner is hereby authorized to charge such fees to Arnold & Porter Deposit Account No. 50-2387, referencing matter number 16518.025. A duplicate copy of this letter is enclosed.

Respectfully submitted,



Rachel L. Adams (Reg. Attorney No. 54,660)
David R. Marsh (Reg. Attorney No. 41,408)
Holly Logue Prutz (Reg. Attorney No. 47,755)

Attachments

PC/MS-DOS PATENTIN 2.1
METZ, JAMES et al.
Appl. No.: 08/657,749
Filed: 30-MAY-1996
Data Rec: 23-SEP-2003
Atty. Dkt. No: 16518.025

09/17/03 WED 09:06 FAX 703 305 7401

GP 1600 FAX MACHINE 8

003

Page 1 of 8



1600

RAW SEQUENCE LISTING

DATE: 08/18/2003

PATENT APPLICATION: US/08/657,749C

TIME: 13:10:45

Input Set : A:\1651802.app

Output Set: H:\CRF4\08182003\H657749C.raw

3 <110> APPLICANT: METZ, JAMES G.
4 LARDIZABAL, KATHRYN D.
5 LASSNER, MICHAEL
7 <120> TITLE OF INVENTION: NUCLEIC ACID SEQUENCES ENCODING A PLANT CYTOPLASMIC
8 PROTEIN INVOLVED IN FATTY ACYL-COA METABOLISM
10 <130> FILE REFERENCE: 16518.025
12 <140> CURRENT APPLICATION NUMBER: 08/657,749C
13 <141> CURRENT FILING DATE: 1996-05-30
15 <150> PRIOR APPLICATION NUMBER: PCT/US94/13686
16 <151> PRIOR FILING DATE: 1994-11-30
18 <150> PRIOR APPLICATION NUMBER: 08/265,047
19 <151> PRIOR FILING DATE: 1994-06-23
21 <150> PRIOR APPLICATION NUMBER: 08/160,602
22 <151> PRIOR FILING DATE: 1993-11-30
24 <150> PRIOR APPLICATION NUMBER: 08/066,299
25 <151> PRIOR FILING DATE: 1993-05-20
27 <150> PRIOR APPLICATION NUMBER: PCT/US92/09863
28 <151> PRIOR FILING DATE: 1992-11-13
30 <150> PRIOR APPLICATION NUMBER: 07/933,411
31 <151> PRIOR FILING DATE: 1992-08-21
33 <150> PRIOR APPLICATION NUMBER: 07/796,256
34 <151> PRIOR FILING DATE: 1991-11-20
36 <160> NUMBER OF SEQ ID NOS: 53
38 <170> SOFTWARE: PatentIn ver. 2.1
40 <210> SEQ ID NO: 1
41 <211> LENGTH: 1786
42 <212> TYPE: DNA
43 <213> ORGANISM: Simmondsia chinensis
45 <220> FEATURE:
46 <221> NAME/KEY: CDS
47 <222> LOCATION: (80)..(1558)
49 <220> FEATURE:
50 <221> NAME/KEY: modified_base
51 <222> LOCATION: (1537)
52 <223> OTHER INFORMATION: a, c, t, or g
54 <220> FEATURE:
55 <221> NAME/KEY: modified_base
56 <222> LOCATION: (1608)..(1609)
57 <223> OTHER INFORMATION: a, c, t, or g
59 <400> SEQUENCE: 1
60 aaatcctcca ctcatcact ccacttctct ctctctctct ctctctctga aacaatttga 60
62 gtacgaact taaaagaaa atg gag gaa atg gga agc att tta gag ttt ctt 112
63 Met Glu Glu Met Gly Ser Ile Leu Glu Phe Leu

Does Not Comply
Corrected Diskette Needed

pg 5-8

09/17/03 WED 09:06 FAX 703 305 7401

GP 1800 FAX MACHINE 8

004

Page 2 of 8

RAW SEQUENCE LISTING

DATE: 08/18/2003

PATENT APPLICATION: US/08/657,749C

TIME: 13:10:45

Input Set : A:\1651802.app

Output Set: N:\CRF4\08182003\H657749C.raw

	1	5	10	
64				
66	gat aac aaa gcc att ttg gtc act ggt gct act ggc tcc tta gca aaa	160		
67	Asp Asn Lys Ala Ile Leu Val Thr Gly Ala Thr Gly Ser Leu Ala Lys			
68	15 20 25			
70	att ttt gtg gag aag gta ctg agg agt caa ccg aat gtg aag aaa ctc	208		
71	Ile Phe Val Glu Lys Val Leu Arg Ser Gln Pro Asn Val Lys Lys Leu			
72	30 35 40			
74	tat ctt ctt ttg aga gca acc gat gac gag aca gct gct cta cgc ttg	256		
75	Tyr Leu Leu Leu Arg Ala Thr Asp Asp Glu Thr Ala Ala Leu Arg Leu			
76	45 50 55			
78	caa aat gag gtt ttt gga aaa gag ttg ttc aaa gtt ctg aaa caa aat	304		
79	Gln Asn Gln Val Phe Gly Lys Glu Leu Phe Lys Val Leu Lys Gln Asn			
80	60 65 70 75			
82	tta ggt gca aat ttc tat tcc ttt gta tca gaa aaa gtg act gta gta	352		
83	Leu Gly Ala Asn Phe Tyr Ser Phe Val Ser Glu Lys Val Thr Val Val			
84	80 85 90			
86	ccc ggt gat att act ggt gaa gac ttg tgt ctc aaa gac gtc aat ttg	400		

09/17/03 WED 09:06 FAX 703 305 7401

GP 1800 FAX MACHINE 8

004

Page 2 of 8

RAW SEQUENCE LISTING
PATENT APPLICATION: US/08/657,749C

DATE: 08/18/2003
TIME: 13:10:45

Input Set : A:\1651802.app
Output Set : B:\CRF4\08182003\H657749C.raw

	1	5	10	
64	gat aac aaa gcc att ttg gtc act ggt gct act ggc tcc tta gca aaa			160
67	Asp Asn Lys Ala Ile Leu Val Thr Gly Ala Thr Gly Ser Leu Ala Lys			
68	15	20	25	
70	att ttt gtg gag aag gta ctg agg agt caa ccg aat gtg aag aaa ctc			208
71	Ile Phe Val Glu Lys Val Leu Arg Ser Gln Pro Asn Val Lys Lys Leu			
72	30	35	40	
74	tat ctt ctt ttg aga gca acc gat gac gag aca gct gct cta cgc ttg			256
75	Tyr Leu Leu Leu Arg Ala Thr Asp Asp Glu Thr Ala Ala Leu Arg Leu			
76	45	50	55	
78	caa aat gag gtt ttt gga aaa gag ttg ttc aaa gtt ctg aaa caa aat			304
79	Gln Asn Glu Val Phe Gly Lys Glu Leu Phe Lys Val Leu Lys Gln Asn			
80	60	65	70	75
82	tta ggt gca aat ttc tat tcc ttt gta tca gaa aaa gtg act gta gta			352
83	Leu Gly Ala Asn Phe Tyr Ser Phe Val Ser Glu Lys Val Thr Val Val			
84	80	85	90	
86	ccc ggt gat att act ggt gaa gac ttg tgt ctc aaa gac gtc aat ttg			400
87	Pro Gly Asp Ile Thr Gly Glu Asp Leu Cys Leu Lys Asp Val Asn Leu			
88	95	100	105	
90	aag gaa gaa atg tgg agg gaa atc gat gtt gtt gtc aat cta gct gct			448
91	Lys Glu Glu Met Trp Arg Glu Ile Asp Val Val Val Asn Leu Ala Ala			
92	110	115	120	
94	aca atc aac ttc att gaa agg tac gac gtg tct ctg ctt atc aac aca			496
95	Thr Ile Asn Phe Ile Glu Arg Tyr Asp Val Ser Leu Leu Ile Asn Thr			
96	125	130	135	
98	tat gga gcc aag tat gtt ttg gac ttc gcg aag aag tgc aac aaa tta			544
99	Tyr Gly Ala Lys Tyr Val Leu Asp Phe Ala Lys Lys Cys Asn Lys Leu			
100	140	145	150	155
102	aag ata ttt gtt cat gta tct act gct tat gta tct gga gag aaa aat			592
103	Lys Ile Phe Val His Val Ser Thr Ala Tyr Val Ser Gly Glu Lys Asn			
104	160	165	170	
106	ggg tta ata ctg gag aag cct tat tat atg ggc gag tca ctt aat gga			640
107	Gly Leu Ile Leu Glu Lys Pro Tyr Tyr Met Gly Glu Ser Leu Asn Gly			
108	175	180	185	
110	aga tta ggt ctg gac att aat gta gag aag aaa ctt gtg gag gca aaa			688
111	Arg Leu Gly Leu Asp Ile Asn Val Glu Lys Lys Leu Val Glu Ala Lys			
112	190	195	200	
114	atc aat gaa ctt caa gca gcg ggg gca aag gaa aag tcc att aaa tcy			736
115	Ile Asn Glu Leu Gln Ala Ala Gly Ala Thr Glu Lys Ser Ile Lys Ser			
116	205	210	215	
118	aca atg aag gac atg ggc atc gag agg gca aga cac tgg gga tgg cca			784
119	Thr Met Lys Asp Met Gly Ile Glu Arg Ala Arg His Trp Gly Trp Pro			
120	220	225	230	235
122	aat gtg tat gta ttc acc aag gca tta ggg gag atg ctt ttg atg caa			832
123	Asn Val Tyr Val Phe Thr Lys Ala Leu Gly Glu Met Leu Leu Met Gln			
124	240	245	250	
126	tac aaa ggg gac att ccg ctt act att att cgt ccc acc atc atc acc			880
127	Tyr Lys Gly Asp Ile Pro Leu Thr Ile Ile Arg Pro Thr Ile Thr			
128	255	260	265	

09/17/03 WED 09:07 FAX 703 305 7401

CP 1800 FAX MACHINE 8

005

Page 3 of 8

RAW SEQUENCE LISTING

DATE: 09/18/2003

PATENT APPLICATION: US/08/657,749C

TIME: 13:10:45

Input Set : A:\1651802.app

Output Set: N:\CRF4\08182003\H657749C.raw

```
130 agc act ttt aaa gag ccc ttt cct ggt tgg gtt gaa ggt gtc agg acc 928
131 Ser Thr Phe Lys Glu Pro Phe Pro Gly Trp Val Glu Gly Val Arg Thr
132 270 275 280
134 atc gat aat gta cct gta tat tat ggt aaa ggg aga ttg agg tgt atg 976
135 Ile Asp Asn Val Pro Val Tyr Tyr Gly Lys Gly Arg Leu Arg Cys Met
136 285 290 295
138 ctt tgc gga ccc agc aca ata att gac ctg ata ccg gca gat atg gtc 1024
139 Leu Cys Gly Pro Ser Thr Ile Ile Asp Leu Ile Pro Ala Asp Met Val
140 300 305 310 315
142 gtg sat gca acg ata gta gcc atg gtg gcg cac gca aac caa aga tac 1072
143 Val Asn Ala Thr Ile Val Ala Met Val Ala His Ala Asn Gln Arg Tyr
144 320 325 330
146 gta gag ccg gtg aca tac cat gtg gga tct tca gcg gcg aat cca atg 1120
147 Val Glu Pro Val Thr Tyr His Val Gly Ser Ser Ala Ala Asn Pro Met
148 335 340 345
150 aaa ctg agt gca tta cca gag atg gca cac cgt tac ttc acc aag aat 1168
151 Lys Leu Ser Ala Leu Pro Glu Met Ala His Arg Tyr Phe Thr Lys Asn
152 350 355 360
154 cca tgg atc aac ccg gat cgc aac cca gta cat gtg ggt ogg gct atg 1216
155 Pro Trp Ile Asn Pro Asp Arg Asn Pro Val His Val Gly Arg Ala Met
156 365 370 375
158 gtc ttc tcc tcc ttc tcc acc ttc cac ctt tat ctc acc ctt aat ttc 1264
159 Val Phe Ser Ser Phe Ser Thr Phe His Leu Tyr Leu Thr Leu Asn Phe
160 380 385 390 395
162 ctc ctt cct ttg aag gta ctg gag ata gca aat aca ata ttc tgc caa 1312
163 Leu Leu Pro Leu Lys Val Leu Glu Ile Ala Asn Thr Ile Phe Cys Gln
164 400 405 410
166 tgg ttc aag ggt aag tac atg gat ctt aaa agg aag acg agg ttg ttg 1360
167 Trp Phe Lys Gly Lys Tyr Met Asp Leu Lys Arg Lys Thr Arg Leu Leu
168 415 420 425
170 ttg cgt tta gta gac att tat aaa ccc tac ctc ttc ttc caa ggc atc 1408
171 Leu Arg Leu Val Asp Ile Tyr Lys Pro Tyr Leu Phe Phe Gln Gly Ile
172 430 435 440
174 ttt gat gac atg aac act gag aag ttg cgg att gct gca aaa gaa agc 1456
175 Phe Asp Asp Met Asn Thr Glu Lys Leu Arg Ile Ala Ala Lys Glu Ser
176 445 450 455
178 ata gtt gaa gct gat atg ttt tac ttt gat ccc agg gca att aac tgg 1504
179 Ile Val Glu Ala Asp Met Phe Tyr Phe Asp Pro Arg Ala Ile Asn Trp
180 460 465 470 475
W--> 182 gaa gat tac ttc ttg aaa act cat ttc cca gga gtc gta gag cac gtt 1552
183 Glu Asp Tyr Phe Leu Lys Thr His Phe Pro Gly Val Val Glu His Val
184 480 485 490
186 ctt aac taaaagttac ggtacgaaaa tgagaagatt ggaatgcatt caccgaaagn 1608
187 Leu Asn
189 ncaacataaaa agacgtgggt aaagtcatgg tcaaaaaaga aatataatgc agttaggttt 1668
191 gtgttcagat ttgatccct tgcattgtta cttgtacttt tgatcttttt ctttttttat 1728
193 gaaatttttc tctttgtttt gtgaaaaaaa aaaaaaaa gagctcctgc agaagctt 1786
196 <210> SEQ ID NO: 2
197 <211> LENGTH: 493
```

09/17/03 WED 09:07 FAX 703 305 7401

GP 1800 FAX MACHINE 8

006

Page 4 of 8

RAW SEQUENCE LISTING

DATE: 09/18/2003

PATENT APPLICATION: US/08/657,749C

TIME: 13:10:45

Input Set : A:\1651802.app

Output Set: N:\CRF4\08182003\H657749C.raw

```
198 <212> TYPE: PRT
199 <213> ORGANISM: Simmondsia chinensis
201 <400> SEQUENCE: 2
202 Met Glu Glu Met Gly Ser Ile Leu Glu Phe Leu Asp Asn Lys Ala Ile
203 1 5 10 15
205 Leu Val Thr Gly Ala Thr Gly Ser Leu Ala Lys Ile Phe Val Glu Lys
206 20 25 30
208 Val Leu Arg Ser Gln Pro Asn Val Lys Lys Leu Tyr Leu Leu Arg
209 35 40 45
211 Ala Thr Asp Asp Glu Thr Ala Ala Leu Arg Leu Gln Asn Glu Val Phe
212 50 55 60
214 Gly Lys Glu Leu Phe Lys Val Leu Lys Gln Asn Leu Gly Ala Asn Phe
215 65 70 75 80
217 Tyr Ser Phe Val Ser Glu Lys Val Thr Val Val Pro Gly Asp Ile Thr
218 85 90 95
220 Gly Glu Asp Leu Cys Leu Lys Asp Val Asn Leu Lys Glu Glu Met Trp
221 100 105 110
223 Arg Glu Ile Asp Val Val Val Asn Leu Ala Ala Thr Ile Asn Phe Ile
224 115 120 125
226 Glu Arg Tyr Asp Val Ser Leu Leu Ile Asn Thr Tyr Gly Ala Lys Tyr
227 130 135 140
229 Val Leu Asp Phe Ala Lys Lys Cys Asn Lys Leu Lys Ile Phe Val His
230 145 150 155 160
232 Val Ser Thr Ala Tyr Val Ser Gly Glu Lys Asn Gly Leu Ile Leu Glu
233 165 170 175
235 Lys Pro Tyr Tyr Met Gly Glu Ser Leu Asn Gly Arg Leu Gly Leu Asp
236 180 185 190
238 Ile Asn Val Glu Lys Lys Leu Val Glu Ala Lys Ile Asn Glu Leu Gln
239 195 200 205
241 Ala Ala Gly Ala Thr Glu Lys Ser Ile Lys Ser Thr Met Lys Asp Met
242 210 215 220
244 Gly Ile Glu Arg Ala Arg His Trp Gly Trp Pro Asn Val Tyr Val Phe
245 225 230 235 240
247 Thr Lys Ala Leu Gly Glu Met Leu Leu Met Gln Tyr Lys Gly Asp Ile
248 245 250 255
250 Pro Leu Thr Ile Ile Arg Pro Thr Ile Ile Thr Ser Thr Phe Lys Glu
251 260 265 270
253 Pro Phe Pro Gly Trp Val Glu Gly Val Arg Thr Ile Asp Asn Val Pro
254 275 280 285
256 Val Tyr Tyr Gly Lys Gly Arg Leu Arg Cys Met Leu Cys Gly Pro Ser
257 290 295 300
259 Thr Ile Ile Asp Leu Ile Pro Ala Asp Met Val Val Asn Ala Thr Ile
260 305 310 315 320
262 Val Ala Met Val Ala His Ala Asn Cln Arg Tyr Val Glu Pro Val Thr
263 325 330 335
265 Tyr His Val Gly Ser Ser Ala Ala Asn Pro Met Lys Leu Ser Ala Leu
266 340 345 350
268 Pro Glu Met Ala His Arg Tyr Phe Thr Lys Asn Pro Trp Ile Asn Pro
269 355 360 365
```


09/17/03 WED 09:07 FAX 703 305 7401

GP 1800 FAX MACHINE 8

007

Page 5 of 8

RAW SEQUENCE LISTING
PATENT APPLICATION: US/08/657,749C

DATE: 08/18/2003
TIME: 13:10:45

Input Set : A:\1651802.app
Output Set: N:\CRF4\08182003\H657749C.raw

271 Asp Arg Asn Pro Val His Val Gly Arg Ala Met Val Phe Ser Ser Phe
272 370 375 380
274 Ser Thr Phe His Leu Tyr Leu Thr Leu Asn Phe Leu Leu Pro Leu Lys
275 385 390 395
277 Val Leu Glu Ile Ala Asn Thr Ile Phe Cys Gln Trp Phe Lys Gly Lys
278 405 410 415
280 Tyr Met Asp Leu Lys Arg Lys Thr Arg Leu Leu Leu Arg Leu Val Asp
281 420 425 430
283 Ile Tyr Lys Pro Tyr Leu Phe Phe Gln Gly Ile Phe Asp Asp Met Asn
284 435 440 445
286 Thr Glu Lys Leu Arg Ile Ala Ala Lys Glu Ser Ile Val Glu Ala Asp
287 450 455 460
289 Met Phe Tyr Phe Asp Pro Arg Ala Ile Asn Trp Glu Asp Tyr Phe Leu
290 465 470 475 480
292 Lys Thr His Phe Pro Gly Val Val Glu His Val Leu Asn
293 485 490
297 <210> SEQ ID NO: 3
298 <211> LENGTH: 1733
299 <212> TYPE: DNA
300 <213> ORGANISM: Simmondsia chinensis
302 <220> FEATURE:
303 <221> NAME/KEY: CDS
304 <222> LOCATION: (39)..(1610)
306 <220> FEATURE:
307 <221> NAME/KEY: modified_base
308 <222> LOCATION: (676)
309 <223> OTHER INFORMATION: a, c, t, or g
311 <400> SEQUENCE: 3
312 ggaactccat ccttcctcc ctcactctc tctctaca atg aag gcc aac aca atc 56
313 Met Lys Ala Lys Thr Ile
314 1 5
316 aca aac ccg gag atc caa gtc tcc acg acc atg acc acc acc acc acc 104
317 Thr Asn Pro Glu Ile Gln Val Ser Thr Thr Met Thr Thr Thr Thr Thr
318 10 15 20
320 act atg acc gcc act ctc ccc aac ttc aag tcc tcc atc aac tta cac 152
321 Thr Met Thr Ala Thr Leu Pro Asn Phe Lys Ser Ser Ile Asn Leu His
322 25 30 35
324 cac gtc aag ctc ggc tac cac tac tta atc tcc aat gcc ctc ttc ctc 200
325 His Val Lys Leu Gly Tyr His Tyr Leu Ile Ser Asn Ala Leu Phe Leu
326 40 45 50
328 gta ttc atc ccc ctt ttg ggc ctc gct tgg gcc cat ctc tcc tcc ttc 248
329 Val Phe Ile Pro Leu Leu Gly Leu Ala Ser Ala His Leu Ser Ser Phe
330 55 60 65 70
332 tgg gcc cat gac ttg tcc ctg ctc ttc gac ctc ctt cgc cgc aac ctc 296
333 Ser Ala His Asp Leu Ser Leu Leu Phe Asp Leu Leu Arg Arg Asn Leu
334 75 80 85
336 ctc cct gtt gtc gtt tgt tct ttc ctc ttc gtt tta tta gca acc cta 344
337 Leu Pro Val Val Val Cys Ser Phe Leu Phe Val Leu Leu Ala Thr Leu
338 90 95 100

what about "n" at location 737?

(see p.6)

09/17/03 WED 09:08 FAX 703 305 7401

GP 1800 FAX MACHINE 8

008

08/657,749C 6

agc ttg ttt aac cca acg ccg tgg ctg tca tcc atg ata gtt aac cat 728
 Ser Leu Phe Asn Pro Thr Pro Ser Leu Ser Ser Met Ile Val Asn His
 215 220 225 230
 tac aag cca agg ggt aat ata ctt agc tat aat ctt ggt ggc atg ggt 776
 Tyr Lys Asa Arg Gly Asn Ile Leu Ser Tyr Asa Leu Gly Gly Met Gly
 235 240 245

"h" 215
 location

see p. 7 for more errors

09/17/03 WED 09:08 FAX 703 305 7401

GP 1800 FAX MACHINE 8

009

08/657,749C 7

<210> SEQ ID NO 4
<211> LENGTH: 524
<212> TYPE: PRT
<213> ORGANISM: Simmondsia chinensis
<220> FEATURE:
<221> NAME/KEY: MOD_RES
<222> LOCATION: (313)
<223> OTHER INFORMATION: Variable amino acid
<400> SEQUENCE: 4

Met Lys Ala Lys Thr Ile Thr Asn Pro Glu Ile Gln Val Ser Thr Thr
1 5 10 15
Met Thr Thr Thr Thr Thr Met Thr Ala Thr Leu Pro Asn Phe Lys
20 25 30
Ser Ser Ile Asn Leu His His Val Lys Leu Gly Tyr His Tyr Leu Ile
35 40 45
Ser Asn Ala Leu Phe Leu Val Phe Ile Pro Leu Leu Gly Leu Ala Ser
50 55 60
Ala His Leu Ser Ser Phe Ser Ala His Asp Leu Ser Leu Leu Phe Asp
65 70 75 80
Leu Leu Arg Arg Asn Leu Leu Pro Val Val Val Cys Ser Phe Leu Phe
85 90 95
Val Leu Leu Ala Thr Leu His Phe Leu Thr Arg Pro Arg Asn Val Tyr
100 105 110
Leu Val Asp Phe Gly Cys Tyr Lys Pro Gln Pro Asn Leu Met Thr Ser
115 120 125
His Glu Met Phe Met Asp Arg Thr Ser Arg Ala Gly Ser Phe Ser Lys
130 135 140
Glu Asn Ile Glu Phe Gln Arg Lys Ile Leu Glu Arg Ala Gly Met Gly
145 150 155 160
Arg Glu Thr Tyr Val Pro Glu Ser Val Thr Lys Val Pro Ala Glu Pro
165 170 175
Ser Ile Ala Ala Ala Arg Ala Gln Ala Glu Glu Val Met Tyr Gly Ala
180 185 190
Ile Asp Glu Val Leu Glu Lys Thr Gly Val Lys Pro Lys Gln Ile Gly
195 200 205
Ile Leu Val Val Xaa Cys Ser Leu Phe Asn Pro Thr Pro Ser Leu Ser
210 215 220
Ser Met Ile Val Asn His Tyr Lys Xaa Arg Gly Asn Ile Leu Ser Tyr
225 230 235 240

what about Xaa at location 233?

see
below

↑

see p.8

09/17/03 WED 09:08 FAX 703 305 7401

GP 1800 FAX MACHINE 8

010

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/08/657,749C

DATE: 08/18/2003
TIME: 13:10:46

Input Set : A:\1651802.app
Output Set: N:\CRF4\08182003\H657749C.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 1537,1608,1609
Seq#:3; N Pos. 676,737
Seq#:3; Xaa Pos. 213,233
Seq#:4; Xaa Pos. 213,233
Seq#:22; N Pos. 345
Seq#:22; Xaa Pos. 102
Seq#:23; Xaa Pos. 102
Seq#:24; N Pos. 155,217
Seq#:24; Xaa Pos. 51,72
Seq#:25; Xaa Pos. 51,72
Seq#:31; Xaa Pos. 3,10
Seq#:35; Xaa Pos. 4,5
Seq#:36; Xaa Pos. 7,8,11
Seq#:38; Xaa Pos. 1,17
Seq#:39; Xaa Pos. 7
Seq#:42; N Pos. 9,12,15
Seq#:43; N Pos. 15
Seq#:46; Xaa Pos. 3
Seq#:47; N Pos. 30,33
Seq#:49; N Pos. 30,33,36
Seq#:50; N Pos. 29,32,35
Seq#:52; N Pos. 39
Seq#:53; N Pos. 27

*Please ensure these n/Xaa
locations are explained*

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.